

# Carbon monoxide creates serious health risks

As winter approaches, base officials are advising everyone to be cautious and knowledgeable about carbon monoxide and its hazards.

Fire departments routinely respond to calls involving detectors measuring carbon monoxide, or CO. Although there may not be any injuries, the incidents underscore the need to be concerned with this potentially deadly threat.

CO detectors are recommended to residents if they use gas-fired appliances. The detectors usually cost between \$30 and \$50.

"We started putting detectors in all the houses, other than the ones that are total electric, about a year ago," said Troy Draughn, 437<sup>th</sup> Civil Engineer housing facility chief. "Of course the total electric homes don't need it.

"We issue a detector with instructions when we issue the house, and we get it back when we do the final inspection. And of course we re-issue it when we put another occupant in it," Draughn said.

Base residents are instructed to call the base fire department by dialing 911, if a detector reads over 35 ppm. "Usually it will read zero," Draughn said.

"We've had a couple of instances where maintenance had to go and

clean the housing unit," Draughn said. "They determine where it's coming from and eliminate the problem."

According to Tech. Sgt. Chris Summers, 437<sup>th</sup> Civil Engineer assistant chief of technical services at the base fire department, carbon monoxide is a colorless, odorless, tasteless and toxic gas produced as a by-product of combustion. "CO is dangerous because it's highly flammable and deadly at high levels," said Summers.

CO is attracted to the red blood cells that carry oxygen to the tissues of the body. CO will displace the oxygen, leaving the body starved for oxygen.

When exposed to CO, it quickly accumulates in the blood and forms a toxic compound called carboxyhemoglobin, or COHb. Symptoms are similar to the flu, including headaches, fatigue, nausea, dizziness, confusion and irritability.

As levels of COHb increase, vomiting, loss of consciousness and eventually brain damage and death can result.

"Those symptoms are noticed if you are awake," Summers said. "When you are exposed when you are sleeping, you go deeper into sleep until death."

The amount of time in which the

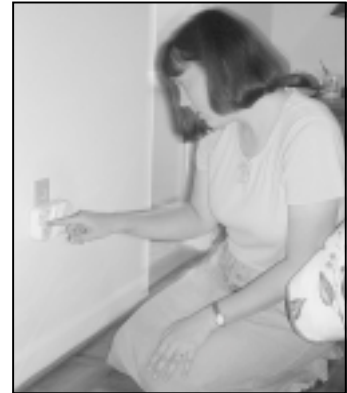
symptoms become apparent depends on the levels or concentrations of CO to which you are exposed. A concentration of .04 percent of CO will result in symptoms showing in two or three hours, but a concentration of .4 percent can be fatal in less than one hour.

"Those statistics apply to healthy adults," Summers said. "Unborn babies, infants, children, senior citizens and people with heart and lung problems are more vulnerable to CO poisoning."

Almost 300 people die from CO exposure each year in the United States, and thousands more are treated for exposure.

Draughn said the carbon monoxide risks in base housing are primarily from gas heaters and gas hot water heaters. "We're replacing gas heaters with heat pumps now, which will reduce the risk," he said. "And as we renovate homes, we're going to electric."

The most common causes of CO poisoning are malfunctioning or unvented gas or oil heaters, furnaces, clothes dryers, ranges, ovens, water heaters and space heaters. Fireplaces, charcoal grills, wood burning stoves and exhaust from running vehicles in an attached garage contribute to the risk.



*Photo by Senior Airman Melanie Streeter*

**Jenny Minor, wife of 1<sup>st</sup> Lt. Kevin Minor, 17<sup>th</sup> Airlift Squadron pilot, checks the carbon monoxide detector in her base house.**

For more information about carbon monoxide detectors in base housing, call the housing office at 963-3859. For more information about carbon monoxide poisoning, call the 437<sup>th</sup> Aeromedical Dental Operations Squadron Bioenvironmental Engineering Flight at 963-6289.

**(Capt. Tracy Velino, 437 AW Public Affairs contributed to this article.)**